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AMENDMENTS TO THE CLAIMS

1. (currently amended) A separator assembly for a fuel cell stack, comprising:

a diffusion layer including a porous metal body for diffusing and supplying one of fuel and oxidizer to an electrode of the fuel cell stack, and a plurality of longitudinally extending flow passage partitions formed within the porous metal body to define a flow passage for the fuel or oxidizer; and

a separator including a metal plate which is disposed adjacent to the diffusion layer, an entire area of the separator being substantially flat,

wherein the diffusion layer and the separator are welded together by laser welding, wherein the plurality of flow passage partitions of the metal body forming the diffusion layer, which are formed by melting the metal body by irradiation by a laser beam and by solidifying the metal body, are formed in the diffusion layer so as to define ~~a~~ the flow passage for the fuel or oxidizer in the diffusion layer.

2. (canceled)

3. (withdrawn) A separator assembly according to claim 1, wherein the diffusion layer and the separator are welded together by electron beam welding.

4. (withdrawn) A separator assembly according to claim 1, wherein the diffusion layer and the separator are welded together by TIG welding.

5. (canceled)

6. (previously presented) A separator assembly according to claim 1, further comprising a cooling layer including a porous metal body for allowing coolant to flow through, which is disposed adjacent to the separator and opposite the diffusion layer with respect to the separator,

wherein the cooling layer and the separator are welded together by laser welding, and

wherein flow passage partitions of the metal body forming the cooling layer, which are formed by melting the metal body by irradiation by a laser beam and by solidifying the metal

body, are formed in the cooling layer so as to define a flow passage for the coolant in the cooling layer.

7. (withdrawn) A separator assembly according to claim 1, wherein the separator is provided for separating the fuel and the oxidizer from each other.

8. (withdrawn) A method for fabricating a separator assembly, comprising the steps of:

providing a diffusion layer including a porous metal body for diffusing and supplying fuel or oxidizer to an electrode of a fuel cell stack, and a separator including a metal plate;

disposing the separator adjacent to the diffusion layer; and

emitting a laser beam in the direction from the separator to the diffusion layer so as to laser-weld the diffusion layer with the separator.

9. (withdrawn) A method for fabricating a separator assembly, comprising the steps of:

providing a diffusion layer including a porous metal body for diffusing and supplying fuel or oxidizer to an electrode of a fuel cell stack, and a separator including a metal plate;

disposing the separator adjacent to the diffusion layer; and

emitting a laser beam in the direction from the diffusion layer to the separator so as to form flow passage partitions for defining a flow passage for the fuel or oxidizer in the diffusion layer.

10. (withdrawn) A method for fabricating a separator assembly, according to claim 9, further comprising the steps of:

providing a cooling layer including a porous metal body for allowing coolant to flow through;

disposing the cooling layer adjacent to the separator and opposite the diffusion layer with respect to the separator; and

emitting a laser beam in the direction from the cooling layer to the separator so as to form flow passage partitions for defining a flow passage for the coolant in the cooling layer.

11. (withdrawn) A fuel cell unit comprising:

a first electrode which is disposed in a first side of an electrolyte, and to which fuel is supplied;

a second electrode which is disposed in a second side of the electrolyte, and to which oxidizer is supplied;

diffusion layers including porous metal bodies which are respectively disposed adjacent to the first electrode and the second electrode, and which are provided for diffusing and supplying the fuel or the oxidizer to the first and second electrodes, respectively; and

separators including metal plates which are respectively disposed adjacent to the diffusion layers,

wherein the diffusion layer and the separator, which are disposed adjacent to each other, are welded together by laser-welding.

12. (withdrawn) A fuel cell unit according to claim 11, wherein flow passage partitions of the metal forming the diffusion layers, which are formed by melting the metal by irradiation by a laser beam and by solidifying the metal, are formed in each of the diffusion layers so as to define a flow passage for the fuel or oxidizer in each of the diffusion layers.

13. (withdrawn) A fuel cell unit according to claim 12, further comprising cooling layers including porous metal bodies for allowing coolant to flow through, which are respectively disposed adjacent to the separators and opposite the diffusion layers with respect to the separators,

wherein each of the cooling layers and each of the separators are welded together by laser welding, and

wherein flow passage partitions of the metal forming the cooling layer, which are formed by melting the metal by irradiation by a laser beam and by solidifying the metal, are formed in each of the cooling layers so as to define a flow passage for the coolant in each of the cooling layers.

14. (withdrawn) A fuel cell unit according to claim 11, wherein the separators are provided for separating the fuel and the oxidizer from each other.

15. (withdrawn) A fuel cell stack comprising: a plurality of fuel cell units according to claim 11, which are stacked with each other.

16. (previously presented) A separator assembly according to claim 1, wherein a height of the flow passage partition formed in the diffusion layer is substantially the same as a thickness of the metal body.